

Metaphysics of Form, Matter, and Gender

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Introduction¹

From the time of Aristotle, how to explain the difference between male and female human beings, by using the categories of form and matter, has been a challenging task of metaphysics. In this paper we will consider some difficulties in the way in which this metaphysical problem was originally posed by Aristotle, some of its developments in the history of western philosophy, and some contemporary suggestions for its solution made by Edith Stein and Bernard Lonergan. *Blaesed*

In Appendix 1 at the end of this paper, an historical development of the philosophy of sex and gender is diagrammed. In four historical phases, philosophers have distinguished male and female, masculine and feminine, man and woman as individuals and man and woman as persons.² During the first phase (750BC-1400AD) man was identified with what was male, and

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² A more detailed account of this developmental aspect of the history of western philosophy can be found in "Integral Sex Complementarity and the Theology of Communion," *Communio: International Catholic Review*, Vol. 17 (Winter, 1990): 523-544; and for a discussion of the use of the geometrical model of a tetrahedron to explain this development, see "Fuller's Synergetics and Sex Complementarity," *International Philosophical Quarterly*, Vol. xxxii, no.1 issue 125 (March, 1992): 3-16.

woman was identified with what was female. This was a single dimensional phase of sex and gender identity. In the second phase (1400-1800), the categories of masculine and feminine characteristics were discovered (e.g. a man could be described as effeminate and a woman as manly, while man had a natural privileged association with masculine characteristics and women with feminine characteristics). This was a two-dimensional phase of sex and gender identity. In the third phase (1800-1920) the categories of man and woman as self-defining individuals were articulated (e.g. an existentialist approach to being a certain kind of man or woman which has an analogous, but not an androgynous structure). This is the three-dimensional phase of sex and gender identity. Finally, from the beginnings of the personalist movement in the early twentieth century, the categories of man as a person and woman as a person were elaborated with reference to the practice of self-gift to build communities of persons. This is a four-dimensional phase of sex and gender identity.

Before we begin this analysis, I would like to clarify the meaning of the terms "sex" and "gender" in this paper. In much contemporary usage, when only biological differences between male and female are stressed, the term 'sex' differentiation is used;³ when the differentiation of masculine and feminine characteristics including psychic, social, intellectual characteristics ^{or excluding the biological} as well as the biological, or of individual men and women occurs, then the term 'gender'

³ Lonergan uses only the word 'sex', but his use while having a primary reference to "the level of nature" also extends its range to include the other levels. See, "Finality, Love, Marriage," Collection, eds. Frederick E. Crowe and Robert M. Doran (Toronto: University of Toronto Press, 1967), "For all its complexity sex remains on the level of spontaneous nature, and there clearly, one may easily recognize that in all its aspects it definitively, if not exclusively, has a role in the process from fecundity to adult offspring.", 42.

differentiation is usually employed.⁴ My own use of the word 'gender' goes somewhat counter to the contemporary theorists who reserve the term "gender" for non-biological, or socially only constructed references and thereby set up a kind of fissure, or Cartesian dualism between sex and gender. My use harkens to the root etymological meaning of gender which includes reference to generation as well as to the contemporary meaning which includes reference to non-biological characteristics.⁵ So 'gender' in the title of this paper includes all the distinctions between male and female, masculine and feminine, and men and women.

The Historical Problem

In Book X, chapter 9 of the Metaphysics, Aristotle posed the original metaphysical question about differentiation of woman and man:

The question might be raised as to why woman does not differ in species from man, seeing that female is contrary to male, and difference is contrariety; and why a female and a male animal are not other in species, although this difference belongs to "animal" *per se*, and not as whiteness or blackness does; "male" and "female" belong to it *qua* animal.⁶

The problem can be restated using the metaphysical categories of form and matter, as follows: if form is what differentiates one species from another species, and matter is what differentiates

⁴ This is the use by Mary Frohlich in "From mystification to Mystery: Lonergan and the Theological Significance of Sexuality," in the text, *Lonergan and Feminism*, ed. Cynthia S. W. Crysdale (Toronto: University of Toronto Press, 1994): 175-198. "Herein I will use the term 'sex' to refer to physical maleness or femaleness; the term 'gender' to refer to the physical component of an individual's psychological and social identity...", 181.

⁵ See the *Oxford English Dictionary* (1989). "Gender....1. Of parents (male or female or both). To beget, engender, produce (offspring)..." Words with similar roots include gendering, gene, genealogy, generate, gens.

⁶ Aristotle, *Metaphysics*, Loeb edition, trans. Hugh Tredennick (Cambridge, Mass.: Harvard University Press, 1935), X, ix, 1 (1058a29-34).

one individual from another individual within the same species, how can metaphysics explain the fact that the human species is divided in the two categories of male human beings and female human beings?⁷

Aristotle argued that differences could belong to things in three ways: 1) in form, 2) in matter as contraries in virtue of its own nature, and 3) in matter as contraries not belonging to its nature. The difference between women and men fell into the second category, and the difference of colour fell into the third category. Aristotle reasoned: "...contrarieties in the formula produce difference in species, but contrarieties in the concrete whole do not."⁸ Aristotle thought that male and female were "contraries" within the same species because they had the same human form. He argued further that in a pair of contraries, one is the privation of the other, cold is the privation of hot, and female is the privation of male.⁹

An individual male human being and a female human being are each composites of form and matter, or else they would not be concrete individual substances or entities. The soul is the form of the body, its life principle, and what gives it the central dynamic structure of

⁷ I leave aside the question of exceptions. Mary Frohlich suggests that if the characteristics are not universal, then they are simply contingent. See for example, "An accurate assessment of physical facts requires the judgment that division into two sexes is not absolute, but rather is a differentiation that admits of degrees." 182. She wrongly, I would argue, invokes the quotation from Lonergan which is contained at the end of this paper, footnote #51 to support her position. Frohlich is using a model of argument common to universals in logic rather than one common to nature, which is concerned with what is usually or for the most part the case.

⁸ Aristotle, *Metaphysics*, X, ix, 2 (1058b2-3).

⁹ Aristotle uses the concept of 'contraries' differently from Lonergan. For Aristotle the notion of contrary involves a concept of one thing being a privation of the other, while for Lonergan contraries are two things which imply a higher synthesis. See, Robert Doran, *Theology and the Dialectics of History* (Toronto: University of Toronto Press, 1990), 68ff and for a discussion of the application of Lonergan's principle of contraries to questions of gender see, Sister Prudence Allen, RSM "Nietzsche's Tension About Women," *Lonergan Review*, Vol.2 (1993): 42-67.

organization. If the human soul is the same kind in a man and a woman, who share the same human species, then how do their bodies receive their sexually differentiated identity within an Aristotelian metaphysics?

Aristotle's solution to this metaphysical problem of gender differentiation of males and females incorporated a distinction from the early Greek 'science' of generation.¹⁰ He stated:

"Male" and "female" are attributes peculiar to the animal, but not in virtue of its substance; they are material or physical. Hence the same semen may, as the result of some modification, become either female or male.¹¹

Thinking that the contraries of male and female were derived from the more elemental contraries of hot and cold, Aristotle argued that the father, who had greater heat, was able, by heating up his blood, to generate seed containing the human form of a child. The female, because she was colder, was not able to heat up her blood to produce form, but only supplied the matter of the child in generation. Aristotle thought that the 'de-formation' of the female was evident in her lack of contribution of form to generation; he also claimed that it is present in her own conception as a female human being. More particularly, if the material supplied by the mother perfectly receives the form supplied by the father, then the child will be a male that looks like the father. If the material resists somewhat, the child will be a female that resembles the father or a male that resembles the mother. If the resistance increases, the child will be a female that resembles the mother, or no conception will take place. Aristotle concludes: "we should look

¹⁰ It is important to note, that even though Aristotle followed the Hippocratean approach to generation, another 'scientific' theory by the physician Empedocles was more correct from the contemporary point of view. Empedocles argued that both male and female provided 1/2 of the formative seed needed for conception, whereas Aristotle argued that only the male provided formative seed.

¹¹ Aristotle, *Metaphysics* X, xi, 6 (1058b21-26).

upon the female state as being as it were a deformity, though one which occurs in the ordinary course of nature.¹² To be female was to have a defect in the form/matter conjunction at conception which had ramifications of deformation throughout the different states of her life.¹³

In *Parts of Animals* Aristotle concluded also that "the female is as it were a deformed male."¹⁴ The characterization of the generation of a particular woman as deformed, defective, manqué, imperfect, or a *mas occasionatus* implies that the individual female is not directly intended, lacking a perfection, or missing the mark.¹⁵

In medieval philosophy this view of a natural or metaphysical limitation was overcome *insert 1 by a belief that in the order of grace woman was potentially as perfect as man.¹⁶ Thomas Aquinas (1224-1274) in the *Summa Theologiae* adopted Albert the Great's distinction between

¹² Aristotle, *Parts of Animals*, Loeb edition, trans. A.L. Peck (Cambridge, Mass: Harvard University Press, 1937), 775a12-15.

¹³ It is also important to note in passing that Aristotle realized that science is generally flexible, and concerned "that which is always or for the most part." See, Aristotle, *Metaphysics*, 1065a2-6. This means that Aristotle's understanding of science allowed for variations in nature which may not fit universal judgments. However, his theory of syllogism demanded universality, not statistical probability. Premises were expressed in the form of "All" or "Some," not "Most." As science developed on the back of Aristotle's syllogistic structures, and particularly as it was influenced later by mathematics and physics, it edged ever closer to the universal classical model.

¹⁴ Aristotle, *Parts of Animals*, 737a26-30.

¹⁵ St. Albert the Great developed this theme by making an important distinction. See, *Quaestiones Super de Animalibus*, in *Opera Omnia*, (Paris: Apud Ludovicum Vives, 1890-99). All passages from this work are translated by Sister M. Terese Dougherty. Albert argued that "...universal nature intends the female, as that without which the species cannot be saved...[while] particular nature moreover intends to produce like itself...[and therefore] intends to produce the male." *Albert, de Animalibus*, Book XV, Quest. 2.

Giles of Rome (1243-1316) also argued that, in the particular case, a woman is a deformed man. He states: "In the case of a man, the male agent is disposed to generate a male, the generation of a female in any particular case being beyond the intention of the agent. For this reason woman is called "an imperfect man," a *mas occasionatus*. "M. Anthony Hewson, *Giles of Rome and the Medieval Theory of Conception (A Study of the De Formatione Corporis Humani in Utero)* (London: The Athlone Press, 1975), p. 183.

¹⁶ For a fuller development of this argument see, *The Concept of Woman: The Aristotelian Revolution (750BC-1250AD)* (Montreal and London: Eden Press, 1985).

universal and particular intention of nature, and he applied it to the issue of women's identity "Only as regards nature in the individual is female something defective and "manque" ... But with reference to nature in the species as a whole, the female is not something "manque," but is
 according to the work of creation."¹⁷ Thomas was clear that ultimately woman was in no way inferior to man. In this theological solution to Aristotle's metaphysical problem, the natural imbalance of the contraries, male and female, was overturned by the power of grace, so that women saints and men saints were equally well formed in their terminus as willed by the Creator. A male and female, who began as contraries were actually complements in the plan of God.

Basically all of these philosophers were struggling to explain how the human species can be divided according to the two main categories of male and female within a metaphysics that positioned form as the explanatory principle for a universal human species and positioned matter as the explanatory principle for a particular human individual. Without a metaphysical basis for a complementarity in development of gender differentiation, a woman usually was described as a devalued contrary of man.¹⁸

While in Aristotle's model of human generation the female was associated with deformity, in Plato's model of cosmic generation the female is associated with formlessness. In

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¹⁷ Thomas Aquinas, *Summa Theologiae*, Blackfriars edition, (New York: McGraw Hill, 1964), 1a, 75, 4. Thomas was also following Augustine's lead that "...a woman's sex is her nature and no blemish...", and so would she would not be turned into a man at the resurrection. *The City of God*, (Cambridge, Harvard University Press, 1966), XII, 17.

¹⁸ The exception to this rule is found in the work of two Christian humanists, Henry Cornelius Agrippa (1490-1536) and Lucrezia Marinelli (1571-1653), who argued that man was naturally inferior to woman. Another exception was found in the work of John Scotus Eriugena (810-877), who viewed gender differentiation as the effect of the fall, and therefore an imperfection in a more fundamental unisex identity of the human being.

the *Timaeus* Plato describes 'the mother and receptacle of all created and visible and in any way sensible things... [which is] an invisible and formless being which receives all things and in some mysterious way partakes of the intelligible and is most incomprehensible.'¹⁹ This Platonic cosmic female principle was devoid of all form, whereas Aristotle's female contribution of matter to male form in semen had a specific form of female menstruum.

In both Plato and Aristotle form was completely a non-material principle and matter was unintelligible without form. In other words, for both philosophers the material principle needed form. A link between matter and form and gender is made by Maimonides (1135-1204) when he stated that a figurative use of the word 'woman' stands for any object that needs to be in conjunction with some other object.²⁰ St. Albert the Great (1193-1280) also explicitly stated that because woman is imperfect, she seeks to be in union with man and joined to his 'ratio', as matter seeks to put on form.²¹

The conflation of female principle and woman with respect to matter, and of male principle and man with respect to form, caused confusion in the history of metaphysics. For the

¹⁹ Plato, *Timaeus*, *The Collected Works of Plato*, eds. Edith Hamilton and Huntington Cairns, (New York: Pantheon Books, 1971), 51b.

²⁰ Moses Maimonides, *The Guide of the Perplexed* (Chicago: University of Chicago Press, 1963) I, 6, p. 31. In a reflection on Genesis the full quotation is as follows: "Man ('ish) and woman ('ishshah) are terms that at first were given the meaning of a human male and a human female. Afterwards they were used figuratively to designate any male or female among the other species of living beings... Thereupon the term woman was used figuratively to designate any object apt for, and fashioned with a view to being in, conjunction with some other object."

²¹ St. Albert the Great, Book V, Question 4. The entire quotation is as follows: "Matter is said to seek form and woman man, because woman seeks intercourse with man, but this is understandable because everything imperfect naturally seeks to be perfected; and woman is an imperfect human being compared with man. Therefore, every woman seeks to be subject to man. For there is no woman who does not want to take off the female "ratio" and put on the male naturally. And in the same way matter seeks to put on form."

male principle is not the same thing as a man, and the female principle is not the same thing as a woman. The principle is a characteristic of a substance while a man or a woman are themselves substances. While it would be possible to provide numerous other historical examples of this conflation, for our purposes it is better to return to the original metaphysical problem posed at the beginning of the paper, or, how can a metaphysics of form and matter explain the principle of division of the human species into male and female?

By introducing evidence from the science of their times, philosophers thought they had discovered an explanatory mechanism to solve this problem by making the female a deformed version of the male. In this explanation, the universal form was human, the particular matter was responsible for the individual, and the relation of matter and form at the moment of conception became the explanation for the contrary generation of females or males. A perfect conjunction of form and matter produced a male, and an imperfect conjunction produced a female.²²

Modern science rejected the Aristotelian theory of generation through the dual discoveries of the existence of formative material female seeds and multiple material and formative male seeds. More recent discoveries in genetics raise the question of how chromosomal structures, as extended in space and time, relate to the traditional metaphysical concept of form as nonmaterial (non spatial and non temporal). It is clear today that both females and males provide both active formal structure and material to conception through the two differentiated pathways

²² In the interim between this solution to the metaphysical problem reached by medieval philosophers and various contemporary solutions offered in this century, there were attempts to shift the balance somewhat to a different view. For example, John Duns Scotus (c. 1265-1308) challenged the view that matter was the principle of differentiation between two members of the same species; he argued that a plurality of forms caused this differentiation. In an interesting way, he also argued that females had a more formative role in generation than had been the case in the Aristotelian view. In Renaissance philosophy we find the female being associated with the beauty of form rather than with matter, and in modern philosophy we find the Aristotelian matter/form distinction being challenged by philosophers who spiritualize matter.

of female and male chromosomes contained in the egg and sperm. Their complementary (i.e. equal, but differentiated) contribution shifts the argument away from Aristotle's premise that the male provided only a immaterial form and the female only material to generation and that the female was the contrary privation of the male.

We will now turn to two different contemporary theories which attempt to solve the metaphysical problem posed originally by Aristotle concerning how to explain gender differentiation. These two theories of Edith Stein and Bernard Lonergan have developed from the Aristotelian-Thomistic tradition, and so they seek to refine rather than undermine the use of the categories of form and matter in metaphysical explanations of human identity.

Some Contemporary Solutions

Blessed
Edith Stein (1891-1942), in an 1932 essay entitled "Problems of Women's Education" raises again Aristotle's question of whether or not the difference between men and women constitutes a difference in species.²³ The concept of an "unchangeable core" in woman's identity is later described by Stein as being due to an "inner form." She states: "I have spoken before of the species 'woman.' By species we understand a permanent category which does not

²³ Edith Stein, "Problems of Women's Education," *Essays on Women* (Washington DC: ICS Publications, 1987), 150. The passage reads as follows: "The basic concept must be the nature of woman, for this is the foundation on which the entire educational system for girls must be built. But this nature is not uniform but varies according to types and individuals. We will have to investigate whether or not these different types share a uniform and unchangeable core which can be regarded as characterizing woman as a species (the historical types as well as the contemporary ones)."

change. Thomistic philosophy designates it by the term form, meaning an inner form which determines structure.²⁴

The form which determines the structure of the individual woman or man is the soul of a particular gendered body. Now an individual soul, according to Stein, may be analyzed by abstraction according to a three fold analysis of "the 'species' of humanity, the species of woman, and individuality".²⁵ Stein argues that just as there is a permanence of inner form that determines the structure of a woman as a human being, so also there is an inner permanence of form that determines her structure as a woman. So she appears to offer a different answer to the question raised by Aristotle than had the Greek philosopher himself. Aristotle had claimed that there was no difference in form between a man and a woman; while Stein suggests that there is some difference in form between a man and a woman.

When Stein begins to compare actual differences between the inner structure of a woman and that of a man, she introduces another distinction. She argues that the relationship of soul and body is different in the two sub-species of woman and of man. So for Stein, gender difference includes difference in body and difference in the relationship of soul and body. This theory is developed in some detail in her work:

I am convinced that the species humanity embraces the double species man and woman; that the essence of the complete human being is characterized by this duality; and that the entire structure of the essence demonstrates the specific character. There is a

²⁴ Stein, 162. She develops the Thomistic position. In the *Summa Contra Gentiles* St. Thomas states that "The soul is the form of the animated body." (New York: Benzinger Bros., 1923-9), II, 58, 14.

²⁵ Stein, 167. Stein puts a footnote to the 'species' as follows: "Whether it is more advisable to speak here of genus or species can be determined only after an inquiry into the formal, ontological problem.", note 22, p. 274. It is perhaps helpful here to call the category of humanity 'the species,' and the category of woman or man 'the sub-species.'

difference, not only in bodily structure and in particular physiological functions, but also in the entire corporeal life. The relationship of soul and body is different in man and woman; the relationship of soul to body differs in their psychic life as well as that of the spiritual faculties to each other.²⁶

By spiritual faculties, Stein is referring to the intellect and will. And by psychic life, she considers such areas as the 'lived experience of the body,' the interior and exterior sensations, imagination, passions, emotions, and so forth.

At this point it seems as though Stein has moved more towards a contemporary version of Aristotle's view that the conjunction of form and matter determines gender differentiation rather than the form itself. In other words, if form is the principle of the differentiation of the human species, and matter the principle of the differentiation of individuals, then in the manner of the conjunction of the two we find the metaphysical explanation for the different engendering of men and women, for the species man and the species woman. However, Edith Stein does not suggest that the conjunction of form and matter is more perfect in man than in woman; instead, she suggests a theory of complementary, or different but equal analogous developments of persons ~~from~~ in two different genders.

We are still left, however, with the problem of what it means to claim that the soul/body relation is different in men and in women. Stein never really explains this metaphysically, but instead uses a phenomenological method to consider certain different natural tendencies within men and women. She says, for example: "The feminine species expresses a unity and wholeness of the total psychosomatic personality and a harmonious development of faculties. The masculine

²⁶ Stein, 177. See also Prudence Allen, "Sex and Gender differentiation in Hildegard of Bingen and Edith Stein," *Communio* 20 (Summer, 1993): 389-414, for a more detailed account of the particular ways in which Stein thinks that the subspecies woman differs from the subspecies man with respect to psychic and spiritual faculties.

species strives to enhance individual abilities in order that they may attain their highest achievements."²⁷

Stein also argues that a man can learn those characteristics associated with the "feminine species" and a woman can learn those characteristics associated with the "masculine species."

So the inner form associated with the subspecies man and woman appears to be more of an ontological and natural starting point in development than a point of completion. However, this gender differentiated starting point is crucial, because it guards against a theory of androgyny.²⁸

Stein makes the meaning of inner form of the subspecies of man and woman very different from the form of the species human, whose inner form serves both as the starting point of development as well as the culmination or completion point of development. However, she also argues that: "...the species man and the species woman are also fully realized only in the total course of human development."²⁹ So the form of the subspecies man and the subspecies woman would serve as a culmination as well as origination point.

Edith Stein's view is complex because it focuses on the identity of soul which contains simultaneously the principles of human identity, gender identity, and individuality. She suggests almost a nesting of forms within one another anticipating perhaps Lonergan's notion of conjugate forms. So a conjoined human-gender-individual form of the person is present from the moment

²⁷ Stein, 178.

²⁸ Mary Frohlich, "Lonergan and...", unfortunately suggests that Lonergan holds a position of androgyny when she states: "Thus, careful attention to the data on the physical aspect of sex leads to an 'inverse insight' into the significance of the existence of two sexes. The inverse insight is that, at the level of human nature, the two sexes are identical; there is no difference. Whatever the significance of sex and sexuality may be, it is not that there are two definitively different types of human beings.", 183.

²⁹ Stein, 179.

of conception. This inner structure develops over a life-time through natural dynamisms as well as the mechanisms of free choice, ^{and the infusion of grace,} so that the woman or man achieves her or his full identity over time.

Stein's phenomenological approach within a metaphysical framework offers some possibilities for further thought about the relation of the form/matter distinction and gender identity. She also sought to elaborate a framework for integrating the findings of scholars in the sciences, social sciences, and humanities, thus also anticipating Lonergan's insistence on interdisciplinary approaches to the human person. However, what needed more development in her thought, is the characterization of the subspecies of man and of woman, what differences there are in their internal forms, and in what exactly consists the different relations of soul to body within the inner form of the human species. More specifically, what does it mean to say that men and women manifest a fundamental difference in their engendered psyches and also in the exercise of their faculties of intellect and will because their relation of soul and body are different?

It is at this point that the work of Bernard Lonergan (1904-1984) may help in our search for a solution to Aristotle's problem.³⁰ In an interesting historical coincidence, in 1942 the year that Edith Stein died in Auschwitz, Lonergan wrote his seminal article on gender identity, ^{Blessed}

³⁰ Lonergan begins his seminal work by making a distinction between classical and contemporary science. Classical science, especially in its development in physics and mathematics, focused on certainties and universal laws, while contemporary science focuses on probabilities and statistical laws. See, Bernard Lonergan, *Insight: A Study of Human Understanding* (New York: Philosophical Library, 1972), chapter ii. By applying this distinction to questions of gender, we could say that universal, univocal judgments about man or woman fall into the classical model, while probable judgments about sex and gender which are based on statistical probabilities of "schemes of recurrence" fall into the contemporary model. The two models also pick up the two aspects of Aristotle's dictum quoted above that science is concerned with "that which is always or for the most part."

entitled "Finality, Love, Marriage." Before comparing some of the ways that his thinking relates to that of Edith Stein's, we will consider first how Lonergan's introduction of an intermediary principle of conjugate forms may provide a framework within which to describe gender differentiation as a complementary dynamic process and activity which is accessible to researchers in many different fields of study. Lonergan tells us in his 1957 work Insight, that while he and Aristotle agree that there are what could be called central and conjugate forms, "Aristotle did not grasp the notion of successive higher viewpoints, nor employ it to account for explanatory genera and species."³¹ In other words, That is, Aristotle did not explain a complementary differentiation of women and men within the human species and the genus animal.

Lonergan understood the role of metaphysics to be the integrator of the empirical sciences.³² It was suggested earlier in this paper that part of the difficulty that Aristotle and subsequent Aristotelians got into by their polarization as contraries of male and female differentiation was their appropriation of what they believed to be the best scientific information available about generation. Lonergan suggests that while the metaphysician can describe the interdynamics of structures, he or she must be careful not to give too detailed answers. Lonergan continues: "On the contrary, he must refer questions of detail to particular departments; and he

³¹ Lonergan, *Insight*, XV, 7.5, 482-3. A fuller statement of this passage is as follows: "...though we are in basic agreement with Aristotle, we differ from him in many positive ways and it will not be amiss to clarify the matter very briefly. Aristotle acknowledged central and conjugate forms: as sight is to the eye, so soul is to the whole animal...On the other hand, Aristotle did not grasp the notion of successive higher viewpoints, nor employ it to account for explanatory genera and species."

³² Lonergan, *Insight*, XVI, 3.1, 498. "If the metaphysician must leave to the physicist the understanding of physics and to the chemist the understanding of chemistry, he has the task of working out for the physicist and chemist, for the biologist and the psychologist, the dynamic structure that initiates and controls their respective inquiries and, no less, the general characteristics of the goal towards which they head."

fails to grasp the limitations of his own subject if, in his hope to meet issues fully, he offers to explain just what various forms are.³³ So for Lonergan, metaphysics becomes a "transcendental" method rather than a set body of doctrine. We will now apply the dynamics of this method to some aspects of human and gender identity.

Lonergan uses the concept of "conjugate forms" to refer to "flexible circles of schemes of recurrence" that occur at different levels of organization within human beings.³⁴ Different sciences study different sets of conjugate forms. This schema of the study of conjugate forms with specific reference to human beings has a hierarchical structure, because within the human being the higher level organizes the lower one. So, for example, a cell organizes atoms, a reproductive system organizes cells, and decisions of intelligence can organize biological systems- all the while respecting the laws of the lower structure. Lonergan summarizes his schema as follows:

Organic, psychic, and intellectual development are not three independent processes. They are interlocked with the intellectual providing a higher integration of the psychic and the psychic providing a higher integration of the organic. Each level involves its own laws, its flexible circle of schemes of recurrence, its interlocked set of conjugate forms.³⁵

The higher system integrates the schemes of recurrence common to the lower system. In "Finality, Love, Marriage," Lonergan introduces a category of "vertical finality" to explain the relation of matter and form in this interlocked set of conjugate forms. He argues that the third manifestation of vertical finality occurs when the concrete plurality of lower entities serve as

³³ Lonergan, *Insight*, XVI, 3.1, 498.

³⁴ Lonergan, *Insight*, XV, 7.4, 469-70.

³⁵ Lonergan, *Insight*, XV, 7.4, 469-70.

"the material cause from which a higher form is educed or into which a subsistent form is infused."³⁶

Plato and Aristotle had stated that all form was immaterial. Lonergan claims, on the other hand, that all conjugate forms and corresponding central forms on the physical, chemical, organic, and psychic levels are material. This statement is very important and will be quoted at length:

...the material can be defined as whatever is constituted by the empirical residue or is conditioned intrinsically by that residue. It follows that conjugate potencies, forms, and acts on the physical, chemical, organic, and psychic levels are material. Further, since central forms are differentiated by their conjugates, it follows that the corresponding central forms are material.³⁷

This claim that forms on the physical, chemical, organic, and psychic level are material does not imply that they are extended in space and time as filling up a spacial container.³⁸ Obviously, if conjugate forms of higher levels of organization operate in the same space, this could not be the meaning Lonergan intended. And yet there is an interesting sense in which conjugate forms of atoms, compounds, molecules, organs, and systems can be considered as extended in space and time.³⁹

³⁶ Lonergan, "Finality, Love, Marriage", 20. The other manifestations of vertical finality are: instrumental, dispositive, and obediential; and the other types of finality are horizontal and absolute.

³⁷ Lonergan, *Insight*, XVI, 4.2, 517.

³⁸ I am grateful for a discussion with Patrick Byrne about the meaning of this passage, following upon his presentation of the paper "Lonergan's Retrieval of Aristotelian Form," at the American Catholic Philosophical Association Conference in Washington DC, spring 1995.

³⁹ The phenomenon of germ cells in the ovaries of female fetuses, which contain the chromosomes for generations is worth reflecting on in this regard.

To provide a metaphysical structure to explain human individuality, Lonergan uses the concept of central form.

Man, the concrete being, is both material and spiritual; he is material by his physical, chemical, organic and sensitive conjugates; he is spiritual by his intellectual conjugates. Still, man is not just an assemblage of conjugates; he is intelligibly one, and that unity has its metaphysical ground in his central form.⁴⁰

Lonergan claims however, that only some conjugate forms on the intelligible level, and the central form of an intelligent being are immaterial and spiritual. The range of operations of the intellect and will may occur in freedom from material determination, while simultaneously respecting the laws of material central and conjugate forms.⁴¹

Here we see that the ancient categories of immaterial form and matter are modified through the introduction of a hierarchical nesting of different kinds of forms, some of which are immaterial and others which are material, and all of which are integrated in an individual entity by a central form which would be either material or immaterial depending upon the identity of the entity. So Lonergan's more flexible metaphysical theory is able to interweave immaterial forms, in the case of human beings, with material forms in conjugate sets. This flexibility helps

⁴⁰ Lonergan, *Insight*, XVI, 4.2, 518. See also, "Man is one. No less than electrons and atoms, plants and animals, man is individual by his central potency, one in nature by his central form, existent by his central act. Moreover, this basic unity extends to the distinctive conjugates of human intellectual activity. The conjugate forms of the atom constitute the higher system of the atom's own subatomic events. The conjugate forms of the organism constitute the higher system of the organism's own chemical processes. The conjugate forms of the psyche constitute the higher system of the animal's own organic processes. In like manner, the conjugate forms of a human intellectual activity constitute the higher system of man's sensitive living. In each case an otherwise coincidental manifold of lower conjugate acts is rendered systematic by conjugate forms on a higher level." 515.

⁴¹ This principle of respect for the laws of the lower level has some application to contemporary theories of natural family planning.

to solve Aristotle's problem of the application of form and matter terminology to the gender distinction, and it opens a metaphysical basis for a theory of gender complementarity.

Referring to Appendix 2 at the end of this paper, we can now try to elaborate a possible schema for applying Lonergan's metaphysical distinctions to the study of sex and gender identity. The Appendix identifies the following categories: the field of study, the kind of form it studies, specific realities it investigates, an example of its findings with respect to gender, the gender related category of its findings, and the relevance of its findings for hierarchically integrating capacities within the human being. The chart attempts to identify at what level particular kinds of gender differentiation occurs.

As far as present evidence implies, there is no sexual differentiation at the level of physics. The 10^{27} hydrogen atoms in a human being have the same, approximately 14 billion year old structure, in men as in women. At the level of chemistry there begins to be some differentiation of male and female hormone molecules and balances of the different hormones in women and men. In order to explain the different sex related chemicals or hormone molecules, a higher biological order of explanation of the reproductive system must be invoked.⁴² In "Finality, Love, Marriage," Lonergan describes complementary gender differentiation on the biological level as follows: "For elementally sex is a difference added to fecundity, dividing it into two complementary semifecundities and so obtaining for offspring the diversity in material cause sanctioned by the impediment of consanguinity.⁴³ The sciences of difference equity

⁴² "The...three steps of anatomy, physiology, and their transposition to the thing-itself reveal one aspect of the organism as higher system in an underlying manifold of cells, chemical processes, and physical changes. Let us name that aspect of the higher system as integrator. The higher system itself is the set of conjugate forms." Lonergan, *Insight*, XVI, 4.3, 464.

⁴³ Lonergan, "Finality, Love, Marriage," 42.

chemistry, biology and the cognate fields of bio-chemistry, anatomy, physiology, and so forth study the material conjugate forms associated with these levels of gender differentiation.

When we reflect on the question of how to explain metaphysically the gender differentiation, not just of males and females, but also of women and men in their relation to masculine and feminine characteristics, we must go far beyond general schemes of recurrence in the biological range. On the psychic level of existence, gender includes vital, sensitive, and emotional characteristics. Lonergan describes it this way when reflecting on marriage: "More prominently, sex is the principle of reunion of the divided semifecundities, bringing together on the level of sensitive attraction and local motion what has been separated and placed in different beings on the level of physiology."⁴⁴ It is the social sciences that study these patterns of differentiation in women and men both in contexts of sexual union, as described above, and in other broader contexts as well. To the extent that an individual exercises the higher levels of cognition and volition, then both the immaterial and material conjugate forms will be studied.

Individual women and men, through the exercise of will and intellect in decisions, engage in their own development or self definition, and they enter into intersubjective communities of meaning, culture, and religion. Lonergan is well aware of the importance of the human individuality of persons and of communities of meaning.⁴⁵ At the same time, Lonergan is also

⁴⁴ Lonergan, "Finality, Love, Marriage," 43.

⁴⁵ He states: "...at any stage of his development a man is an individual, existing unity differentiated by physical, chemical, organic, psychic, and intellectual conjugates. The organic, psychic, and intellectual conjugate forms ground respective flexible circles of ranges of schemes of recurrence that are revealed in the man's spontaneous and effective behaviour, in his bodily movements, in his dealings with persons and things, in the content of his speech and writing." Lonergan, *Insight*, XV, 7.4, 470.

aware of ways in which gender identity functions on this higher level. In an important passage from "Finality, Love, Marriage," he summarizes it as follows:

[Sex] is a bias and orientation in a large number of potencies, a typical and complementary differentiation within the species, with a material basis in a difference in the number of chromosomes, with a regulator in the secretions of the endocrinal glands, with manifestations not only in anatomical structure and physiological function but also in the totality of vital, psychic, sensitive, emotional characters and consequently, though not formally, in the higher nonorganic activities of reason and rational appetite.⁴⁶

Leaving aside the classification of sex as a bias,⁴⁷ we need here to focus on the final phrase of this quotation, or Lonergan's claim that the complementary differentiation of gender is not formally in the reason and will, but only consequently there because of its presence at the lower levels of human identity. In this claim, Lonergan differs from Edith Stein, who had argued that the form of man and woman was gender differentiated as a sub-species within the human species; but he agrees with Stein in her other claim that there is something different in the way the form connects with the gender differentiated material in a man and in a woman. Lonergan seems to be arguing that material conjugate forms of women and men differ (their male ~~identity~~^{or female} and their relation to masculine and feminine psychic identity), and therefore effect a posteriori the reason and will. At the same time, the central form, while a priori as an individual soul is not itself gender differentiated.⁴⁸

⁴⁶ Lonergan, "Finality, Love, Marriage," 42.

⁴⁷ See, Michael Vertein, "Gender, Science, and Cognitional Conversion," *Lonergan and Feminism*, 62-64 for a consideration of the relation of gender and bias.

⁴⁸ This raises the Theological question of what it means that a person was known by God before he or she was formed in the mother's womb, and how the philosophical principle of soul, or central form, relates to the eternal identity of a specific person as a man or woman with a specified vocation, such as the Virgin Mary, or John the Baptist.

It might be helpful to flesh out Lonergan's theory by introducing a further factor to explain gender differentiation of a woman and a man within this structure of central and conjugate forms of a human being. This could be found in a theory of existential analogy, or a development of how a woman and a man are analogous to one another in their complementary metaphysical structures.⁴⁹ It is clear that Lonergan understood women and men, not as contraries but as complementaries. He explicitly said that sex is a complementary differentiation within the species; and sex makes male and female complementary beings.⁵⁰

If we consider the application of Lonergan's method in the higher range of conjugate forms of intelligence and central form of a human being, we enter into the fields studied by philosophy and theology. Lonergan elaborates some general categories of these fields such as values and the human good, meaning and human intersubjectivity, religion and the existence of God, history and progressive knowledge, and dialectics and conflict, etc. In all of these ranges it is possible to consider questions related to gender. What is the value of a man or a woman choosing and acting qua man or qua woman? What is the meaning of men's and women's cultures? What is the relation between creation, redemption, and sanctification and gender identity? What do we know about women's and men's history? What is the place of dialectic and conflict in determining the truth about and the value of gender identity? And so forth.

Lonergan argues that philosophy studies ways in which gender evolves in human beings in their individuality and their identities as persons working not only to survive but to live

⁴⁹ See, Prudence Allen, R.S.M., "A Woman and a Man as Prime Analogical Beings," *American Catholic Philosophical Association Quarterly*, Vol. LXVI, no. 4, 465-482 for some developments in this direction. for an attempt to develop this concept, using the metaphysical theory of analogy of M. A. Krapiec and the Lublin School.

⁵⁰ Lonergan, "Finality, Love, Marriage," 43.

virtuously, or to have a good life. He states that in marriage this dynamic may be expressed through the quality of the friendship of husband and wife and in their rational choice of a building a common good through a legal contract. Theology articulates ways in which grace can animate this relationship through the Sacrament of Marriage.

Lonergan describes what he calls the dynamic of vertical finality in gender relations:

Thus sex as a differentiation of fecundity is merely an instrument of fecundity in the latter's process to adult offspring. But at the same time, it is a quality and capacity of subjects or persons. To them its actuation is at least a material end, that is an end that can and ought to be integrated with higher ends. Further the actuation of sex involves the organistic union of a concrete plurality, and as such it has a vertical finality. Such an upward drive follows from our general theory. In the vegetal and animal kingdoms it has its verification in the measure of truth that may be attributed to theories of evolution in terms of statistical laws and probabilities regarding combinations of genes through random mating. But in man the upward drive is to the human and personalist aspects of marriage from fecundity and sex to the levels of reason and grace.⁵¹

The model that Lonergan uses frequently for the theological level of gender relations is participation in the Mystical Body of Christ through the perfection of the acts of charity in anticipation of eternal life. Without moving too directly into the range of Theology, I might suggest that another analogy with perhaps even more poignant application to Lonergan's theory of gender complementarity would be the Post Vatican II development by John Paul II of the theology of marriage as a communion of persons called to be in likeness to the Divine Communion of Persons. The common element in this analogy is the significant differentiation and fundamental equality of dignity and worth of the persons within each level of the analogy,

⁵¹ Lonergan, "Finality, Love, Marriage," 43-44.

and the differential element in the analogy is the difference between the Divine nature of the Persons in the Trinity and the human nature of men and women.

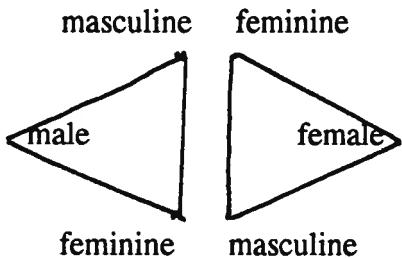
We will now bring this exploratory essay on the application of Lonergan's metaphysics of form and matter to the question of gender differentiation to a close. While we have not yet found a complete solution to Aristotle's dilemma about how to explain gender differentiation using the metaphysical principle of form as the differentiator of species and matter as the differentiator of individuals within a species, we have at least found a method within which this question can be approached. Using a model of internesting and hierarchical conjugate forms, integrated by a central form in a woman or a man, philosophers can study the findings of different sciences and social sciences, ^{and integrate} ^{philosophy, and theology,} concerning ways in which men and women are both alike and different. If we can borrow a statement from a different context in Lonergan, we can see how he provides the framework for interdisciplinary cooperation by scholars in different fields: "Method is not a set of rules to be followed meticulously by a dolt. It is a framework for collaborative creativity."⁵² I would suggest then that a contemporary answer to Aristotle's question posed in the *Metaphysics* is to study in an interdisciplinary context the various schemes of recurrence that are articulated in different fields with respect to gender differentiation, while asking intelligent questions about the philosophical relevance of the data, all the while respecting the laws of each range of conjugate forms, respecting the non-material central form of each human being, and moving towards a greater integrity of building the common good in intersubjective communities.

⁵² Bernard Lonergan, *Method in Theology*, (Toronto: University of Toronto Press, 1990), xi.

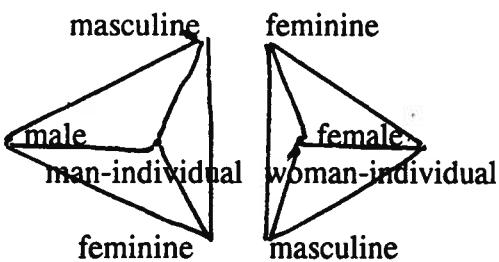
APPENDIX 1: EVOLUTIONARY PHASES IN SEX AND GENDER

FIRST PHASE (750BC-1400AD) Identification of sex identity

SECOND PHASE (1400-1800) Identification of gender identity including sex identity



THIRD PHASE (1800-1920) Identification of identity as an individual man or woman



FOURTH PHASE (1920- Identification of identity as a person (with sex and gender identity) in relation with other persons

man-person- interaction -woman-person

**APPENDIX 2: LONERGAN'S METAPHYSICS
AND SEX AND GENDER DIFFERENTIATION**

Field	Kind of Form*	Investigates	Finds	Category	Relevance
Theology	analogical spiritually conjoined forms and conjugate forms of spiritual realities	spiritual realities: God and relation of Divine and Human [Lonergan suggests the Mystical Body of Christ]	e.g. man and woman created and called to live in communion of persons in likeness of God, as a Trinity; and choice of sexual act (or not) occurs in context of sacramental marriage or consecrated celibacy	The Divine Communion of Persons is analogous (alike and different) to human communion of persons	a man and a woman enters into a communion of persons by free choice and repeated acts of self gift to another person or persons [Lonergan suggests eternal life]
Philosophy	immaterial central form and conjugate forms of intelligence and material	intellectual realities: the person; the soul as the form of the body; intelligence and decision; interpersonal search for the common good	e.g. choice of particular sexual act (or not) in relation to the true and the good	self definition as an individual man [male-masculine and feminine identity] or woman [female- feminine and masculine identity] in relation with others	a man or a woman defines himself or herself as a particular kind of man or a particular kind of woman by the choices he or she makes in relation with others [Lonergan suggests friendship, contracts, and the good life]
Anthropology Sociology Political Science Linguistics	analogical immaterial and material conjugate forms	inter cultural realities: patterns of interaction among human beings in families, society, governments, languages and cultures	e.g. sexual partners in broader contexts [Lonergan suggests education of children to adulthood]	influences on a male-masculine-feminine identity and on a female-feminine-masculine identity through language, history, culture, society, etc.	development of integrated sex and gender identity in a male or female human being in relation to others

Human Psychology	immaterial and material conjugate forms	intelligence, psychic realities: consciousness-sensations, passions, instincts, desires, and behaviour	e.g. sexual attraction [Lonergan suggests vital, psychic, sensitive, and emotional characteristics]	male or female identity; masculine and feminine characteristics through the lived experience of the body	psychological identification as male or female organizes behaviour of the reproductive system
animal psychology	material conjugate forms	the same as above without intelligence			
Biology	material conjugate forms	organic realities: physiology-systems; genes; anatomy [Lonergan suggests endocrinial glands]	e.g. reproductive system; chromosomes; anatomy [Lonergan suggests biological fecundity]	male and female fertility- xx and xy chromosomes; and primary and secondary sexual characteristics	the male and female reproductive systems produce and organize male and female hormones
Chemistry	material conjugate forms	chemical realities: compounds and reactions	e.g. androgens (testosterone) and estrogens	male and female hormones	hormone molecules organize hydrogen atoms at higher level
Physics	material conjugate forms	physical realities: atoms and subatomic particles	e.g. structure of hydrogen atom	no difference by sex/gender 10 to the 27 in average adult	"some things never change"- each hydrogen atom 14 billion years old

*1) For Lonergan: conjugate forms are "flexible circles of schemes of recurrences"

- a) forms of material things are material (in space and time)
- b) the higher system, the integrator, organizes the lower in hierarchical sequences among conjugate forms
- c) 'things' or systems with conjugate forms do not exist independently (outside the body)
- d) only concrete beings with central forms exist independently
- e) the central form organizes the being and all the conjugate forms within it
- f) there exist many complement fields such as bio-chemistry, socio-biology, etc.

2) **Male and female**, categories of material aspects of concrete beings, are primarily applicable to the conjugate forms studied in chemistry, biology, and the social science of psychology (and their cognates)- [consider difference of female germ cells from other cells]

3) **Masculine and feminine**, categories of psychic realities in concrete material beings, emerge in psychology, sociology, anthropology, political science.

4) **Man and woman**, categories of concrete beings who are both material and spiritual, more fully emerge in philosophy (as individuals) and theology (as persons) with respect to central form and to forms conjoined by free will choice.